TASK 2 DATA EVALUATION RECORD

STUDY TYPE: Product Performance

MRID 486810-02. Hansen, L.D. 2011. Bioactivity of Termidor Foam (BAS 350 HL I, TC-335, 0.005% Fipronil) Against Carpenter Ants (*C. modoc)* Via Choice Assay.

OCSPP 810.3500 [Premises Treatments]
OCSPP 810.3600 [Structural Treatments]

Product Name: TC-335

EPA Reg. No.: 499-LAG

Decision number: 459858

DP number: 400663

Prepared for
Registration Division (7505)
Office of Pesticide Programs
U.S. Environmental Protection Agency
Washington, DC 20460

Prepared by
Summitec Corporation
Task Order No.: 2-62

Primary Reviewer:
Dennis M. Opresko, Ph.D.

Signature: [signature]
Date: JUL 10 2012

Secondary Reviewers:
Gene Burgess, Ph.D.

Signature: Gene Burgess, AE
Date: JUL 10 2012

Robert H. Ross, M.S. Program Manager

Signature: Robert H. Ross
Date: JUL 10 2012

Quality Assurance:
Jennifer Goldberg, B.S.

Signature: [signature]
Date: JUL 10 2012

Disclaimer

This review may have been altered subsequent to the contractors' signatures above.
Summitec Corp. for the U.S. Environmental Protection Agency under Contract No. EP-W-11-014

DATA EVALUATION RECORD

[EPA Primary Reviewer's Name]

STUDY TYPE:	PRODUCT PERFORMANCE [OCSPP 810.3500; 810.3600]
MRID:	486810-02. Bioactivity of Termidor Foam (BAS 350 HL I, TC-335, 0.005% fipronil) Against Carpenter Ants (*C. modoc)* Via Choice Assay. Hansen, L.D. 2011.
DP BARCODE:	400663
DECISION NO:	459858
SUBMISSION NO:	910069
SPONSOR:	BASF Corporation
TESTING FACILITY:	Biology Department, Spokane Falls Community College, Spokane, WA.
STUDY DIRECTOR:	L.D. Hansen, Ph.D., Spokane Falls Community College
SUBMITTER:	D.M. Thomas, BASF Corporation
STUDY COMPLETED:	10/08/2011
CONFIDENTIALITY CLAIMS:	None
GOOD LABORATORY PRACTICE:	"This study was not conducted in compliance with Good Laboratory Practice standards as described by EPA (40 CFR Parts 160 and 792), and was never intended for that purpose."
TEST MATERIAL: [As noted on label]	PRODUCT NAME: TC-335 EPA REGISTRATION NUMBER: 499-LAG ACTIVE INGREDIENT NAME: Fipronil CHEMICAL NAME: [5-amino-1-(2,6-dichloro-4-(trifluoromethyl)phenyl)-4-((1,R,S)-(trifluoromethyl)sulfinyl)-1-H-pyrazole-3-carbonitrile] A.I. %: 0.005% PC CODE: 129121 CAS NO.: 120068-37-3 FORMULATION TYPE: Pressurized foam PRODUCT APPLICATION RATE(S): "Foam up to 6" length of trail".

	ACTIVE INGREDIENT APPLICATION RATE(S): Not reported
PROPOSED LABEL MARKETING CLAIMS:	"Kills… ants (including…*foraging* Carpenter…"

STUDY REVIEW

Purpose: To determine the efficacy of Termidor® Foam (BAS 350 HL I, TC-335) against carpenter ants (*C. modoc*) in a choice assay.

MATERIALS AND METHODS

Test Location: Spokane, WA

Test Material(s): Termidor® foam (0.0050% fipronil, TC-335), Premise foam (imidacloprid), and an untreated control. Termidor® foam (TC-335) is identical to the substance listed under EPA Reg. No. 499-LAG.

Test Species Name, Life Stage, Sex and Age: Carpenter ant (*Camponotus modoc*), workers; collected in north Idaho; maintained in the lab with a supply of honey, a protein source, and water.

Describe test containers, chambers and/or apparatus (include site description and location) and how experiment was conducted: Wood substrates were cut into pieces approximately 13 by 11 by 1.75 cm in size. Substrates were covered with the foam and allowed to dry for 24 hr before the process was repeated for the opposite side of each substrate. Substrates were allowed to dry again for 24 hr before placement into rearing chambers (32 x 20 x 8 cm). Tubes of water and dishes of honey were added to the containers. Approximately 40% of the lids of the containers were removed for ventilation. A mixture of petroleum jelly and mineral oil was applied to the underside of the lid to keep the ants from escaping. On substrates not treated with insecticide, water was sprayed onto the surface to the point of run off and also allowed to dry for 24 hr after each application. Two substrates were placed in each plastic container including one containing a Termidor® Foam substrate and a water substrate, and one containing two water substrates as a control. After 24 hr in the plastic rearing chambers, 50 carpenter ant workers were introduced. Mortality of the ants was assessed at 1, 2, 4, 8, and 24 hr and daily through 14 day.

List the treatments including untreated control: Total amount applied to both sides of the wood substrates for each replicate was 14.5, 13.6, 21.5, 16.4, and 11.5 g of Termidor® Foam. Controls were sprayed with water alone.

Number of replicates per treatment: 5.

Number of individuals per replicate: 50.

Length of exposure to treatment: Up to 14 days.

Were tested specimens transferred to clean containers? No.

Experimental conditions: Not reported.

Data or endpoints collected/recorded: Number of dead ants and percent mortality at each observation period.

Data analysis: Percent mortality. No other data analysis.

RESULTS

Results for each replicate were presented in the study report. There were no reported protocol amendments or deviations. Data were not corrected using Abbott's Formula, nor were they subjected to statistical analysis. Results are shown in Table 1.

Table 1. Mortality of *C. modoc* When Exposed to Wood Substrates Treated with Termidor® Foam

			Mortality																	
Treatment	Rep	No.	1 hr	2 hr	4 hr	8 hr	24 hr	2D	3D	4D	5D	6D	7D	8D	9D	10D	11D	12D	13D	14D
Termidor & Water	1	52	1	1	5	9	15	50	52	52	52	52	52	52	52	52	52	52	52	52
	2	51	2	3	5	10	14	49	51	51	51	51	51	51	51	51	51	51	51	51
	3	51	1	3	8	10	13	49	51	51	51	51	51	51	51	51	51	51	51	51
	4	53	2	4	6	7	13	50	53	53	53	53	53	53	53	53	53	53	53	53
	5	50	1	1	2	2	4	35	50	50	50	50	50	50	50	50	50	50	50	50
Total		257	7	12	26	38	59	233	257	257	257	257	257	257	257	257	257	257	257	257
%			3	5	10	15	23	91	100	100	100	100	100	100	100	100	100	100	100	100
Water & water	1	41	1	1	1	1	1	1	1	1	1	1	1	3	3	4	5	6	6	6
	2	52	2	2	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
	3	53	0	0	0	1	1	2	2	2	2	2	2	3	3	3	3	4	4	4
	4	53	2	2	2	3	3	4	4	4	4	4	4	4	5	5	5	5	5	5
	5	51	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	3	4	4
Total		250	6	6	9	11	11	13	13	13	13	13	13	16	17	18	19	22	23	23
%			2	2	4	4	4	5	5	5	5	5	5	6	7	7	8	9	9	9

STUDY AUTHOR'S CONCLUSIONS

Mortality was 91% by Day 2 and 100% by Day 3. Ants were not repelled by Termidor® Foam.

REVIEWER'S CONCLUSIONS

Control mortality was 5% by Day 2 and mean percent mortality of the treated group was 91%. Using Abbott's Formula, mean percent mortality of the treated group on Day 2 corrected for control mortality is:

$$\frac{91\% \text{ (treated)} - 5\% \text{ (control mortality)}}{[100 - 5\% \text{ (control mortality)}]} \times 100 = 90.5\%$$

Data support the conclusions of the study author.

REVIEWER'S RECOMMENDATIONS

Acceptable. Data can be used to support a label claim that the product kills carpenter ants (*Camponotus modoc*).